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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, LONG T

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/631,841

Applicant(s)

SHIAH, CHUN

Examiner

Long Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/9/05 has been entered.

Response to Amendment

2. The amendment filed 6/29/05 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the recitations regarding the capacitance values of CHC and Cp such that the coupling ratio of $CHC/(C_p + CHC) \approx 1$ recited from line 3 of paragraph [0018] to line 1 of paragraph [0019] recited in the specification filed on 1/14/05 and in claims 10, 21, 31 and 41 (amendment filed on 1/14/05, previously state in the final office action); the limitation regarding the ratio of the large capacitor and the parasitic capacitor approaching unity value recited in independent claims 1, 12, 23 and 33 (amendment filed 1/14/05, previously state in the final office action); and “the capacitance value of the large capacitor is chosen to be very large with respect to a capacitance value of said parasitic capacitor” as recited in claims 11, 22, 32 and 42 (amendment filed on 6/29/05) .

Applicant is required to cancel the new matter in the reply to this Office Action.

Specification

3. The substitute specification filed on 1/14/05 has not been entered because it contains new matter as discussed above.

Claim Objections

4. Claims 11, 22 and 32-42 are objected to because of the following informalities:

Claim 11, line 1, “wherein the” should be changed to --wherein a-- to avoid unclear antecedent basis.

Claim 22, line 1, “wherein the” should be changed to --wherein a-- to avoid unclear antecedent basis.

Claim 32, line 1, “wherein the” should be changed to --wherein a-- to avoid unclear antecedent basis.

Claim 33, line 2, it appears that “on an input buffer receiver” should be deleted because it is seen that all the elements for the apparatus of this claim is also the same as for “an input buffer receiver”, so “on input buffer receiver” on line 2 should be deleted to avoid a confusion in the claim since there is no element left (in the disclosure) is for the “on input buffer receiver” in this claim.

Claim 33, line 6, “said a” should be changed to --a--.

Claims 34-42 are objected to because they include the informalities of claim 33.

Also in claim 42, line 1, “wherein the” should be changed to --wherein a-- to avoid unclear antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, at the time the application was filed on 7/31/03, the originally disclosure (filed 7/31/03) does not support the limitation “a coupling ratio between said large capacitor and a parasitic capacitor coupled between said bias node and a ground reference point approaching a unity value such that a biasing voltage at said biasing node follows said lower supply voltage to minimize effects of a ground noise signal between the lower supply voltage and the ground reference point” as recited in independent claims 1, 12, 23 and 33 (amendment filed on 1/14/05, previously state in the final office action). Furthermore, the original disclosure does not support the limitation regarding the capacitance values of CHC and C_p such that the coupling ratio of $CHC/(C_p + CHC) \approx 1$ as recited in claim 10, 21, 31 and 41 (amendment filed on 1/14/05, previously state in the final office action), and “the capacitance value of the large capacitor is chosen to be very large with respect to a capacitance value of said parasitic capacitor” as recited in claims 11, 22, 32 and 42 (amendment filed on 6/29/05).

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claims 1-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, the recitation “a coupling ratio between said large capacitor and a parasitic capacitor coupled between said bias node and a ground reference point approaching a unity value” on lines 5-8 is misdescriptive since it is inconsistent with what is disclosed. Note that, in the amendment filed 1/14/05, lines 3-12 of paragraph [0018] of the specification recites that the ratio of $CHC/(C_p + CHC) \approx 1$, so the coupling ratio of the large capacitor (CHC) and the parasitic capacitor (C_p) approaching a unity value recited on lines 5-8 of claim 1 is misdescriptive. Note that the recitation “a coupling ratio between said large capacitor and a parasitic capacitor” means CHC/C_p (i.e., not $CHC/(C_p + CHC)$). Clarification and/or appropriate correction is required. Note that the similar problem also exists in independent claims 12, 23, and 33.

Claims 2-11, 13-21 and 34-42 are indefinite because they include the indefiniteness of claims 1, 12, 23 and 33, respectively.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA, Figure 1) in view of Rapp (USP 6,373,328).

Note that Figure 1 of the AAPA discloses an input buffer receiver, which includes: a buffer input portion (100) comprising a bias node (b1) for providing a bias voltage (V_{b1}), a parasitic capacitor (C_p) connected between the bias node and a ground reference, a first transistor (NMOS N1), a second transistor (PMOS P1), a third transistor (PMOS P2), a fourth transistor (NMOS N2), and a lower supply voltage (V_{ss}); and a buffer output portion (200) in communication with the buffer input portion for producing an output signal (Signal_Out).

Figure 1 of the AAPA does not disclose that the input buffer portion (100) including a large capacitor connected between the bias node (b1) and the lower power supply (V_{ss}). However, the Rapp reference discloses in Figure 5 an input buffer portion (76) comprising a large capacitor (90) connecting between a bias node (node connecting gates of transistors 86 and 88 together) and a lower power supply voltage (the source of the transistors 92 and 94) for stabilizing the voltage at the bias node (i.e., the voltage at the gates of transistors 86 and 88 is stabled), see lines 40-42 of Col. 9 of Rapp. Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the circuit in Figure 1 of the AAPA by providing a large capacitor connected between the bias node (b1) and the lower supply voltage (V_{ss} which is also connected to the sources of transistors N1 and N2) for the purpose of holding the voltage at the bias node to be stabled (i.e., preventing voltage at the bias node from variations) so as to improve the performance of the circuitry. Thus, this modification meets all the limitations of claims 1-42 because the structure of the modification as discussed is substantially identical to the structure of the claim invention. Note that it is obvious that when designing a circuit, one skill in the art would like to design the circuit so that the parasitic capacitance of the circuit is as small as possible to reduce noises and delays of the circuitry, and thus the value of the parasitic

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capacitance is very small compares with the value of large capacitor, and that the ratio of $C_{\text{large}}/(C_{\text{large}} + C_p) \approx 1$ would also be met.

Response to Arguments

11. Applicant's arguments filed on 6/29/05 have been fully considered but they are not persuasive.

With respect to the new matter and the rejection under 35 U.S.C. 112, 1st paragraph, applicant argues that the coupling ratio is easily derived to be $CHC/(CHC + C_p)$, and when the magnitude of the capacitance of the large capacitor CHC grows larger then the coupling ration approaches unity (1). However, this argument is not persuasive because although the Examiner agrees that the coupling ration is easily to be derived as $CHC/(CHC + C_p)$ and it is clear that whenever CHC grows larger and larger such that the capacitance of CHC is much and much larger than the capacitance of C_p , then the ratio of $CHC/(CHC + C_p)$ will approaches 1, but the original disclosure did not have the position that the coupling ratio approaches 1 (unity). Note that the original disclosure only disclosure the coupling ration to be $CHC/(CHC + C_p)$ and that CHC is a large capacitor, but did not specifically disclose that the capacitance values of CHC and C_p are chosen so that the coupling ratio $CHC/(CHC + C_p)$ approaches 1.

With respect to the rejection under 35 U.S.C. 112, 2nd paragraph, the claims are still indefinite as discussed above. Note that the recitation "a coupling ratio between said large capacitor and a parasitic capacitor" as recited in the independent claims means CHC/C_p (i.e., not $CHC/(C_p + CHC)$).

With respect to the rejection under 35 U.S.C. 103 (AAPA in view of Rapp), in response to applicant's arguments against the references individually (note that applicant argues against

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the AAPA individually and also against Rapp individually), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant also argues that there is not sufficient basis for concluding that the combination of the claimed elements would have been obvious to one having skill in the art. This argument is not persuasive because the 103 rejection is clearly recited:

The APPA teaches all the limitations of the input buffer receiver except for a large capacitor connected between the bias node and the lower power supply. The Rapp reference teaches an input buffer portion (76) comprising a large capacitor (90) connecting between a bias node (node connecting gates of transistors 86 and 88 together) and a lower power supply voltage (the source of the transistors 92 and 94) for stabilizing the voltage at the bias node (i.e., the voltage at the gates of transistors 86 and 88 is stabilized), see lines 40-42 of Col. 9 of Rapp.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the circuit in Figure 1 of the AAPA by providing a large capacitor connected between the bias node (b1) and the lower supply voltage (V_{ss} which is also connected to the sources of transistors N1 and N2) for the purpose of holding the voltage at the bias node to be stabilized (i.e., preventing voltage at the bias node from variations) so as to improve the performance of the circuitry.

Thus, the 5 steps to construct the 103 rejection are clearly presented including the motivation for combination also provided. Thus, applicant argument that "there is not sufficient

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basis for conducting that the combination of the claimed elements would have been obvious to one having skilled in the art" is not found persuasive.


Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Long Nguyen whose telephone number is (571) 272-1753. The Examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached at (571) 272-1740. The fax number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 19, 2005


LONG NGUYEN
PRIMARY EXAMINER